

ABSTRACT OF THE DISCLOSURE

A phase array of oxide confined VCSELs and a method for forming the phase array of oxide confined VCSELs is described. VCSELs in the array are designed to be simultaneously addressed such that the output of multiple VCSELs can be used to
5 increase the light intensity at a point. In applications where beam coherence from the VCSEL array is desirable, high gain coupling regions break the continuity of the oxide wall surrounding each VCSEL aperture. The high gain coupling regions connect adjacent VCSELs in the VCSEL array thereby allowing mode coupling between adjacent lasers and the output of a coherent beam of light.